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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PAUL, DISLER

ART UNIT

PAPER NUMBER

2614

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/511,806	<b>Applicant(s)</b> OOMEN ET AL.	
	<b>Examiner</b> DISLER PAUL	<b>Art Unit</b> 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10 and 13-21 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

a. Applicant's arguments, see, filed 12/19/08, with respect to claiming priority over under 35 U.S.C 119 have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Davis et al. (US 6,021,386).

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-13 are rejected under 35 U.S.C. 101 because a statutory "process" claim must be tied to another statutory (such as a particular Machine apparatus). While, the instant claim recites a series of steps or acts to be performed, the claim does not positively ties to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example the method including steps of generating, *determining and encoding* are of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7; 14-21 are rejected under 35 U.S.C. 102(b) as being anticipated by over Davis et al. (US 6,021,386).

Re claim 1, Davis et al. disclose of the method of encoding a multi-channel audio signal comprising at least two audio channels, the method comprising the steps of: generating a single channel audio signal and encoding the single channel audio signal into a bit stream as an encoded single channel audio signal (fig.2-3 w (204,304); col.7 line 30-36; col.6 line 59-65; fig.7/encoder to received combined input multi channel signal) and generating information from the at least two audio channels allowing to recover with a required quality level the multi-channel audio signal from the single channel audio signal and the information (fig.2-3 (206,306); col.7 line 5-10/steering with level info of each channel), wherein the generating information step comprises the steps of: determining a first portion of the information for a first frequency region of the multi-channel audio signal and encoding the first portion of the information into the bit stream as an encoded first portion of the information and determining a second portion of the information for a second frequency region of the multi-channel audio signal, the second frequency region being a portion of the first frequency region and encoding the second

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portion of the information into the bit stream as an encoded second portion of the information (fig.2-3 (206,306); fig.6; col.9 line 15-35; col.12 line 10-25; composite channel subband with representation of each sub band channel, which is part of the encoder).

Re claim 2, Davis et al. disclose of the method of encoding a multi-channel audio signal comprising at least two audio channels, the method comprising generating a single channel audio signal (fig.2-3 w (204, 304); col.7 line 30-36; col.6 line 59-65; fig.7/encoder to received combined input multi channel signal) and generating information from the at least two audio channels allowing to recover with a required quality level the multi-channel audio signal from the single channel audio signal and the information (fig.2-3 ({204,206},{306,304}); col.7 line 5-10/steering with level info of each channel witch enable multi-channel to be created), receiving a maximum allowable bit rate of the encoded multi-channel audio signal and only determining a first portion of the information for a first frequency region of the multi-channel audio signal if a bit rate of the encoded multi-channel audio signal comprising the single channel audio signal and the first portion of the information is not higher than the maximum allowable bit rate (fig.7; col. 12 line 20-40; col. 15 line 35-50/determining the maximum bit rate for the encoder and portion of the subband audio channel).

Re claim 3, the method of encoding as claimed in claim 1, wherein the single channel audio signal is a particular combination of the at least two audio channels (fig.2-3/(204,304)).

Re claim 4, the method of encoding as claimed in claim 1, characterized in that the information comprises sets of parameters, the first portion comprises at least a first one of the sets of parameters, the second portion comprises at least a second one of the sets of parameters, wherein each set of parameters is associated with a corresponding frequency region (col.7 line 5-10/steering with appropriate of level info parameter for each channel in the particular subband).

Re claim 5, the method of encoding as claimed in claim 4, characterized in that the sets of parameters comprise at least one localization cue ( col.7 line 5-10 & line 39-43; col.6 line 64-67; /level steering/direction info cues as for localization).

Re claim 6, the method of encoding as claimed in claim 5, characterized in that the at least one localization cue is selected from: an interaural level difference, an interaural time or phase difference, or an interaural cross-correlation ( col.7 line 5-10 & line 39-43; col.6 line 64-67; /level steering info cues as for localization).

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Re claim 7, the method of encoding as claimed in claim 1, characterized in that the first frequency region covers a full bandwidth of the multi-channel audio signal (col.9 line 15-30/composite of all subband formed full-bandwidth).

Re claim 14, Davis et al. disclose of an encoder for coding a multi-channel audio signal comprising at least two audio channels, the encoder comprising: means for generating a single channel audio signal and means for generating information from the at least two audio channels allowing to recover with a required quality level the multi-channel audio signal from the single channel audio signal (fig.2-3(204,206; 304,306) and the information and wherein the means for generating information comprises: means for determining a first portion of the information for a first frequency region of the multi-channel audio signal and means for determining a second portion of the information for a second frequency region of the multi-channel audio signal, the second frequency region being a portion of the first frequency region (fig.2-3 (206,306); fig.6; col.9 line 15-35; col.12 line 10-25; composite channel subband with representation of each sub band channel, which is part of the encoder).

Re claim 15, Davis disclose of an encoder for encoding a multi-channel audio signal comprising at least two audio channels, the encoder comprising: means for generating a single channel audio signal and means for generating information from the at least two audio channels allowing to recover with a required quality level the multi-channel audio signal from the single channel audio signal (fig.2-3

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({204,206},{306,304}); col.7 line 5-10/steering with level info of each channel witch enable multi-channel to be created) and the information, comprising the single channel audio signal and the first portion of the information is not higher than the maximum allowable bit rate (fig.7; col. 12 line 20-40; col. 15 line 35-50/determining the maximum bit rate for the encoder and portion of the subband audio channel).

Re claim 16, the apparatus for supplying an audio signal, the apparatus comprising: an input for receiving an audio signal and an encoder as claimed in claim 14 for encoding the audio signal to obtain an encoded audio signal and an output for supplying the encoded audio signal (fig.1-2( (202,204))).

Similarly Re claims 17-18 have been analyzed and rejected with respect to claim 1.

Re claim 19, the method of decoding a multi-channel audio signal having been encoded as claimed in claim 17, the method of decoding comprising: obtaining a decoded single channel audio signal n£ obtaining decoded information from the information allowing to recover the multi-channel audio signal from the decoded single channel audio signal and the decoded information, the decoded information comprising the first portion of the information and the second portion of the information and applying either the first portion of the information or the first portion and the second portion of the information on the single channel audio signal to generate the decoded multi-channel audio signal



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(fig.2 (212); col.7 line 9-15; fig.5; col.1-12/decoder to receive info and single with appropriate portion).

Re claim 20, a decoder for decoding an encoded audio signal, said encoded audio signal having been encoded as claimed in claim 17, the decoder comprising: means for obtaining a decoded single channel audio signal and means for obtaining decoded information from the information allowing to recover the multi-channel audio signal from the decoded single channel audio signal and the decoded information, the decoded information comprises the first portion of the information and the second portion of the information and means for applying the first portion of the information and the second portion of the information on the single channel audio signal to generate the decoded multi-channel audio signal (fig.2 (212); col.7 line 9-15; fig.5; col.1-12/decoder to receive info and single with appropriate portion).

Re claim 21, an apparatus for supplying a decoded audio signal, the apparatus comprising: an input for receiving an encoded audio signal and a decoder as claimed in claim 20 for decoding the encoded audio signal to obtain a multi-channel output signal and an output for supplying or reproducing the multi-channel output signal (fig.2 (212); col.7 line 9-15; fig.5; col.1-12/decoder to receive info and single with appropriate portion).

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4. Claims 10, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by over Davis et al. (US 6,021,386) as evidence by Jensen et al. (US 2004/0204936).

Re claim 10, the method of encoding as claimed in claim 4, But, Davis et al. fail to disclose of the specific wherein characterized in that the determining of the first portion of information in a particular frame of encoded information comprises determining the first one of the sets of parameters in the particular frame, and coding the first one of the sets of parameters based on the first one of the sets of parameters of a frame preceding the particular frame.

But, official notice is taken the concept of determining of the first portion of information in a particular frame of encoded information comprises determining the first one of the sets of parameters in the particular frame, and coding the first one of the sets of parameters based on the first one of the sets of parameters of a frame preceding the particular frame is well known in the art (evidence wt Jensen (par [0003, 0004,0051]/inter-frame correlation is exploited). Thus, it would have been obvious for one of the ordinary skill in the art to have modified the combination with the specific wherein the first portion of information in a particular frame of encoded information comprises determining the first one of the sets of parameters in the particular frame, and coding the first one of the sets of parameters based on the first one of the sets of parameters of a frame preceding the particular frame for reducing the bit rate needed.

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RE claim 13, the method of encoding as claimed in claim i0, characterized in that the determining comprises calculating a difference between the corresponding parameters in the particular frame and the frame preceding the particular frame (see claim 10 rejection with correlation, difference of the frame).

***Allowable Subject Matter***

5. Claims 8,9,11,12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Re claim 8, none of the prior art of record disclose of the specific wherein the determining of the second portion of the information is adapted to determine sets of parameters for both the second frequency region and a set of further frequency regions, the second frequency region and the set of further frequency regions substantially covering the full bandwidth, where in the set of further frequency regions comprises at least one further frequency region.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DISLER PAUL whose telephone number is (571)270-1187. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. P./

Examiner, Art Unit 2614

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2614